REFERENCES 49

[24] C. Watt, J. Renner, N. Popescu, S. Cauligi, and D. Stefan, "Ct-wasm: Typedriven secure cryptography for the web ecosystem," *Proc. ACM Program. Lang.*, vol. 3, jan 2019.

- [25] Q. Stiévenart, D. Binkley, and C. De Roover, "Dynamic slicing of webassembly binaries," in 39th IEEE International Conference on Software Maintenance and Evolution, IEEE, 2023.
- [26] Q. Stiévenart, D. W. Binkley, and C. De Roover, "Static stack-preserving intra-procedural slicing of webassembly binaries," in *Proceedings of the 44th International Conference on Software Engineering*, ICSE '22, (New York, NY, USA), p. 2031–2042, Association for Computing Machinery, 2022.
- [27] K. Haßler and D. Maier, "Wast: Binary-only webassembly fuzzing with fast snapshots," in *Reversing and Offensive-oriented Trends Symposium*, pp. 23– 30, 2021.
- [28] R. K. Konoth, E. Vineti, V. Moonsamy, M. Lindorfer, C. Kruegel, H. Bos, and G. Vigna, "Minesweeper: An in-depth look into drive-by cryptocurrency mining and its defense," in *Proceedings of the 2018 ACM SIGSAC Conference on Computer and Communications Security*, pp. 1714–1730, 2018.
- [29] A. Romano, Y. Zheng, and W. Wang, "Minerray: Semantics-aware analysis for ever-evolving cryptojacking detection," in *Proceedings of the 35th IEEE/ACM International Conference on Automated Software Engineering*, pp. 1129–1140, 2020.
- [30] F. N. Naseem, A. Aris, L. Babun, E. Tekiner, and A. S. Uluagac, "Minos: A lightweight real-time cryptojacking detection system.," in *NDSS*, 2021.
- [31] W. Wang, B. Ferrell, X. Xu, K. W. Hamlen, and S. Hao, "Seismic: Secure in-lined script monitors for interrupting cryptojacks," in *Computer Security:* 23rd European Symposium on Research in Computer Security, ESORICS 2018, Barcelona, Spain, September 3-7, 2018, Proceedings, Part II 23, pp. 122–142, Springer, 2018.
- [32] J. D. P. Rodriguez and J. Posegga, "Rapid: Resource and api-based detection against in-browser miners," in *Proceedings of the 34th Annual Computer Security Applications Conference*, pp. 313–326, 2018.
- [33] A. Kharraz, Z. Ma, P. Murley, C. Lever, J. Mason, A. Miller, N. Borisov, M. Antonakakis, and M. Bailey, "Outguard: Detecting in-browser covert cryptocurrency mining in the wild," in *The World Wide Web Conference*, pp. 840–852, 2019.
- [34] D. Wang, B. Jiang, and W. Chan, "Wana: Symbolic execution of wasm bytecode for cross-platform smart contract vulnerability detection," arXiv preprint arXiv:2007.15510, 2020.

50 REFERENCES

[35] N. He, R. Zhang, H. Wang, L. Wu, X. Luo, Y. Guo, T. Yu, and X. Jiang, "{EOSAFE}: security analysis of {EOSIO} smart contracts," in 30th USENIX Security Symposium (USENIX Security 21), pp. 1271–1288, 2021.

- [36] Y. Huang, B. Jiang, and W. K. Chan, "Eosfuzzer: Fuzzing eosio smart contracts for vulnerability detection," in *Proceedings of the 12th Asia-Pacific Symposium on Internetware*, pp. 99–109, 2020.
- [37] W. Chen, Z. Sun, H. Wang, X. Luo, H. Cai, and L. Wu, "Wasai: uncovering vulnerabilities in wasm smart contracts," in *Proceedings of the 31st ACM SIGSOFT International Symposium on Software Testing and Analysis*, pp. 703–715, 2022.
- [38] S. Cao, N. He, Y. Guo, and H. Wang, "A general static binary rewriting framework for webassembly," arXiv preprint arXiv:2305.01454, 2023.
- [39] A. Romano, D. Lehmann, M. Pradel, and W. Wang, "Wobfuscator: Obfuscating javascript malware via opportunistic translation to webassembly," in 2022 2022 IEEE Symposium on Security and Privacy (SP) (SP), (Los Alamitos, CA, USA), pp. 1101–1116, IEEE Computer Society, may 2022.
- [40] N. Loose, F. Mächtle, C. Pott, V. Bezsmertnyi, and T. Eisenbarth, "Madvex: Instrumentation-based Adversarial Attacks on Machine Learning Malware Detection," arXiv e-prints, p. arXiv:2305.02559, May 2023.
- [41] S. Cao, N. He, Y. Guo, and H. Wang, "WASMixer: Binary Obfuscation for WebAssembly," arXiv e-prints, p. arXiv:2308.03123, Aug. 2023.
- [42] D. Chen and W3C group, "WebAssembly documentation: Security." https://webassembly.org/docs/security/, 2020. Accessed: 18 June 2020.
- [43] D. Genkin, L. Pachmanov, E. Tromer, and Y. Yarom, "Drive-by key-extraction cache attacks from portable code," *IACR Cryptol. ePrint Arch.*, vol. 2018, p. 119, 2018.
- [44] Q. Stiévenart, C. De Roover, and M. Ghafari, "Security risks of porting c programs to webassembly," in *Proceedings of the 37th ACM/SIGAPP Symposium on Applied Computing*, SAC '22, (New York, NY, USA), p. 1713–1722, Association for Computing Machinery, 2022.
- [45] A. Hilbig, D. Lehmann, and M. Pradel, "An empirical study of real-world webassembly binaries: Security, languages, use cases," *Proceedings of the Web Conference 2021*, 2021.
- [46] B. Cox, D. Evans, A. Filipi, J. Rowanhill, W. Hu, J. Davidson, J. Knight, A. Nguyen-Tuong, and J. Hiser, "N-variant systems: a secretless framework for security through diversity," in *Proc. of USENIX Security Symposium*, USENIX-SS'06, 2006.